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NEW ENGLAND NOTE

TRIGLOCHIN MARITIMA (JUNCAGINACEAE) DISCOVERED IN VERMONT

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Triglochin maritima L. VERMONT: Orleans Co., East Charleston, Clyde River, 2.25 km downstream from Orleans Co. line, intermediate fen floating in broad area of river, 3 Sep 1998, *Lapin 98088 & Engstrom* (VT); 15 Sep 1998, *Lapin 98113 & Engstrom* (VT).

Triglochin maritima (common arrow-grass) is a circumboreal and north-temperate plant common in brackish water of coastal marshes and shores, but also known from inland freshwater marshes and shores, bogs, and swamps (Crow and Hellquist 1982; Fernald 1950; Gleason and Cronquist 1991; Hulten 1968; Seymour 1982). The range of the species in New England as noted by Seymour (1982) is "Me.: Aroostook Co., Hampden, Skowhegan, Washington Co. along seacoast to Ct., Fairfield Co., not B.I." (Block Island, Rhode Island). Crow and Hellquist (1982) note that the species was last found inland (in New England) in 1935 in Maine. The species was not previously known to occur in Vermont.

On 3 September 1998, in the course of inventory work of the wetlands of the Lake Memphremagog watershed, the authors were exploring wetlands associated with the Clyde River. In a broad, slow-water stretch of the river, expansive graminoid wetlands were bordered by red maple-northern white cedar *(Acer rubrum–Thuja occidentalis)* swamp, parts of which had been inundated due to construction of a bridge over the river. The upper Clyde River is in the bedrock-contact zone where the Gile Mountain formation meets granitic rocks of the New Hampshire plutonic series (Doll 1961). The Gile Mountain formation is predom-

inantly quartz-muscovite phyllite or schist, but it does include interbedded calcareous mica schist, and quartzose and micaceous crystalline limestone. A wide swath of the Waits River formation, which contains much siliceous crystalline limestone, occurs west of these wetlands. Glacial drift from the limestone likely enriches the soils in this portion of the Clyde River valley. Many of the wetlands there show a pronounced influence of calcareous enrichment in soils and seepage waters.

We maneuvered our canoe through patches of cattail (*Typha latifolia* L.) and pickerelweed (*Pontederia cordata* L.) and stepped out onto a floating mat dominated by *Carex lasiocarpa* Ehrh. and *Myrica gale* L. Upon this soggy, floating mat of sedge peat, we happened upon a 45 cm tall, fruiting stem of *Triglochin maritima.* Searching the immediate area, we discovered in total three fertile and three vegetative stems in a 100 m^2 area. We later returned to the site to better quantify the population and to characterize the ecosystem in which it occurred. Our final count for the 1998 season was 27 fruiting stems in a one-half hectare area. Leaves had largely withered this late in the season, thus we were unable to count vegetative individuals. Other associated plant species included *Menyanthes trifoliata* L., *Dulichium arundinaceum* (L.) Britton, *Potentilla palustris* (L.) Scop., *Vaccinium macrocarpon* Aiton, *Bidens cernuus* L. var. *minimus* (Huds.) Pursh, *Cicuta bulbifera* L., *Eriocaulon aquaticum* (Hill) Druce, *Rhynchospora alba* (L.) Vahl, *Triadenum fraseri* (Spach) Gleason, *Utricularia gibba* L., *Cladium mariscoides* (Muhl.) Torr., and *Salix pedicellaris* Pursh. The latter three species are rare or uncommon in Vermont. *Triglochin maritima* grew on both floating and non-floating parts of the fen; the peat was poorly decomposed and ranged from 1 to 3 m deep.

Continuing the inventory work in the vast wetland complex, we explored the wide open, glade-like landscape of meandering river, sedge meadow, intermediate fen and shrub swamp. We know of no similar landscape in Vermont. Despite hours of searching many hectares of sedge meadow and fen, we discovered no additional plants of *Triglochin maritima.*

The new plant discovery and additional information about the wetlands in this portion of the Clyde River were later useful in easement planning for a farmland conservation project. Although a small part of the wetland ecosystem was impacted by bridge construction some years ago, this portion of the Clyde River and

the associated wetlands remain a high-quality natural area that deserves protection and appreciation.

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